Economic Regional Development Agreement

ERDA

Government of Canada
Energy, Mines and Resources Canada

Gouvernement du Canada
Energie, Mines et Ressources Canada

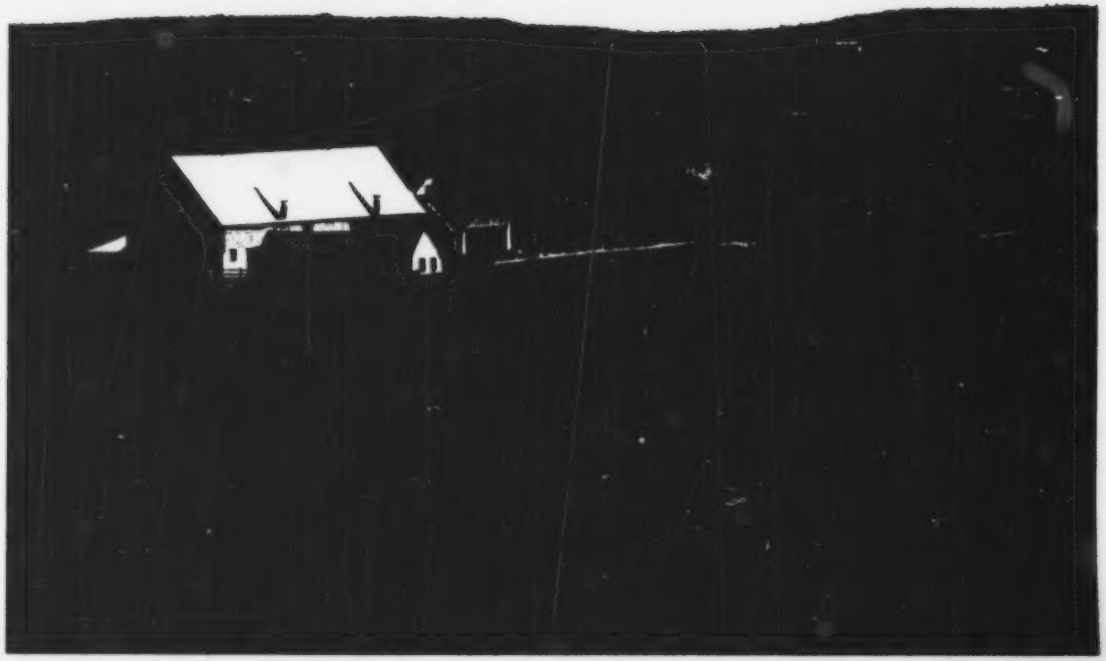
Province of Prince Edward Island
Department of Energy and Forestry

E N E R G Y

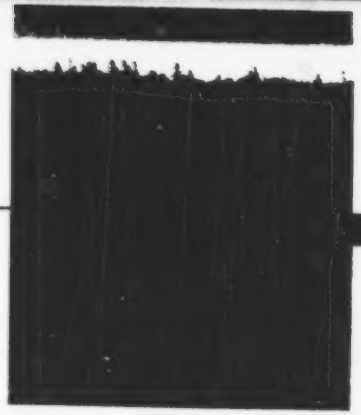
Introduction

Prince Edward Island has a new Energy Agreement, the first of its kind in Canada. Island businesses and residents alike will benefit from initiatives offered by the Province of Prince Edward Island and the Government of Canada.

Island Energy. . . we're using an old fuel with a new twist!



Energy Heritage



Wood energy has been a source of comfort, warmth, and prosperity for Prince Edward Islanders for nearly 300 years. Kitchen and parlor stoves offered our ancestors more than just an inviting atmosphere for family and friends. The **real** worth of these wood-burning stoves in homes and businesses was more functional than hospitable! Space heating, cooking, and hot water heating were vital uses of wood — our primary fuel in those days.

And restful sleep could be assured only when the wood box was filled from a well-stocked woodshed.

Previous generations of Prince Edward Islanders responded with enthusiasm and adaptability to the energy challenges of their day to develop a durable industrial fabric and enhance their Island way of life.

Twentieth Century innovations such as oil furnaces, electric water heaters, kitchen ranges and modern appliances were welcome and inexpensive energy alternatives in the mid-1900's.

Today our energy requirements are considerably more complex. Rapid industrial expansion and an increase in the types of energy uses within businesses and homes have altered for all time our expectations of what our fuel resources can and must provide. Indeed we must again become pioneers of action and creativity to maximize our full energy potential.

Prince Edward Islanders recognize the necessity of achieving energy self-reliance for commercial, industrial and residential sectors. And wood is still a practical and economical energy source to help achieve this goal.

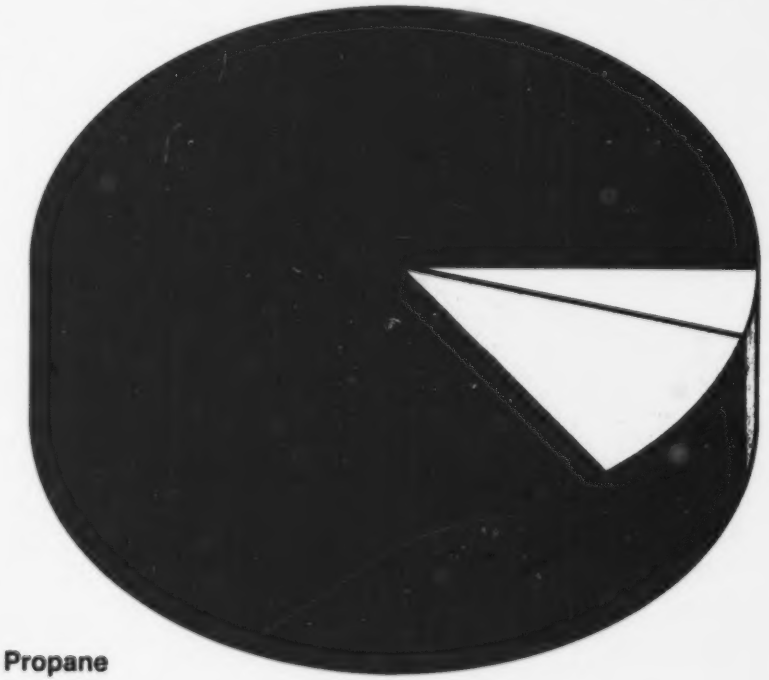
With the rising costs of imported oil and the economic realities of dependance on oil, ma energy-conscious islan are again "filling up tha wood box. . ."

Reliance on Resources

Currently on Prince Edward Island 85 percent of the energy used comes from oil or electricity purchased off-Island. Due to recent uncertainties over the supply of energy commodities from other countries, Islanders recognize the importance once again of relying on our own resources.

A major opportunity exists in the use of one of the most manageable and readily accessible resources on the Island: Biomass.

Forms of Energy



- **76% Oil Products and Propane**
- **12% Biomass**(roundwood & wood chips)
- **9% Electricity**
- **3% Coal**

Source: Statistics Canada Cat. 57-002 1982-IV

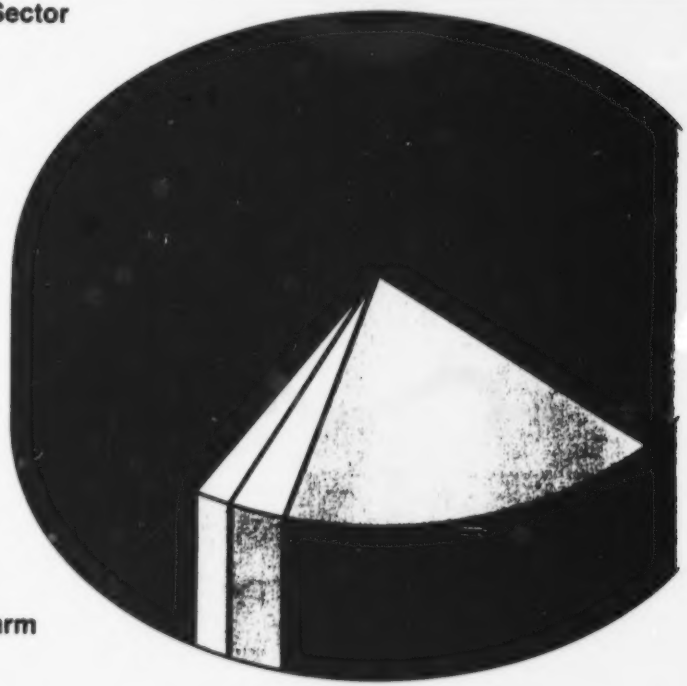
Proportions are Based on Units of Energy. In 1982 About 18.9 "Petajoules" of Energy Were Used in the Province, the Equivalent of About 3 Million Barrels of Crude Oil.

Biomass Defined

Stems, branches, bark, needles, leaves and trees of all sizes and species, as well as straw, crop residues, animal wastes, food processing wastes, garbage, etc., make up the often heard yet seldom defined term of "biomass".

Biomass can be utilized as a convenient source of energy. In fact, Prince Edward Island has the potential to double its biomass energy utilization during the next five years from Island-produced wood fuels.

Energy Use by Economic Sector



39% Residential and Farm

34% Transportation

22% Commercial and Government

3% Industry

2% Manufacturing

Source: Statistics Canada Cat. 57-002 1982-IV

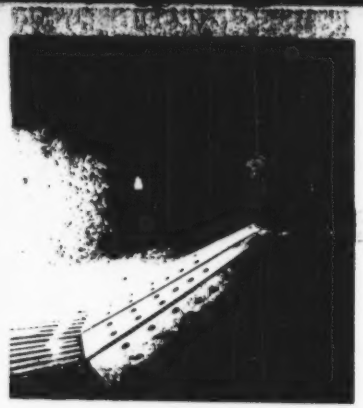
Proportions are Based on Units of Energy. In 1982 About 18.9 "Petajoules" of Energy Were Used in the Province, the Equivalent of About 3 Million Barrels of Crude Oil.

Forest Management Paves the Way

To ensure a long-term and steady supply of wood for Prince Edward Island, stepped-up forest management activity began in the late 1970's and continues today under a Forest Resource Development Agreement, signed in July, 1983, between the provincial and federal governments.

Successful forest management guarantees an ample supply of wood energy materials, such as wood chips, for commercial and industrial energy users in the province.

With good forest management in place, and with our forest resources well defined through an extensive forest inventory, the stage has been set for wood as an energy source to take its rightful place in the Island's economy.



Energy Projects, Island Style

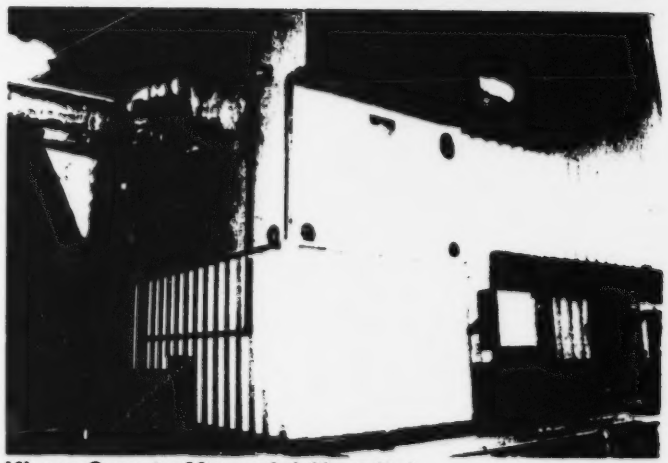
Positive steps have already begun to transfer some of our energy reliance to Island resources.

Whole-tree chips (often called wood chips), seen as one of the Island's most viable wood energy forms, are currently being utilized as heat sources in these and other buildings and institutions in Prince Edward Island.

Kings County Memorial Hospital, Montague.
One of the Island's first success stories in wood conversion, the hospital has utilized whole-tree chips in its wood-burning unit since May, 1982.

Wedgewood Manor, Summerside.
Wood chips fire the wood-burning heating system in this Prince County manor.

Centre d'Education Evangéline, Abrams Village.
Wood chips from sawmill waste are used in the unique wood-burning system, featuring a portable boiler.

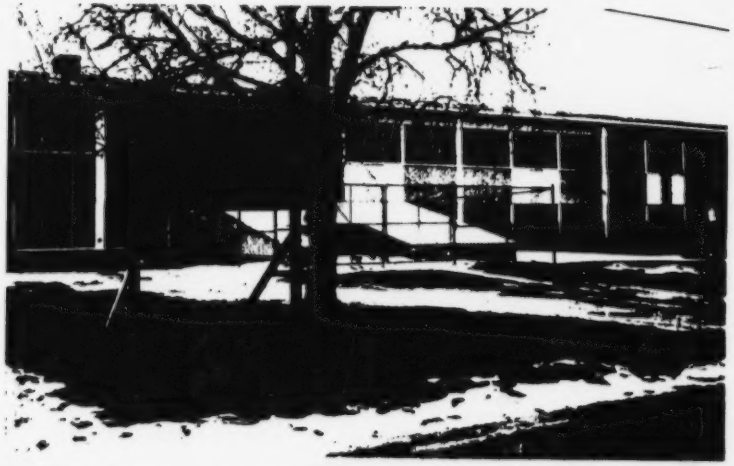


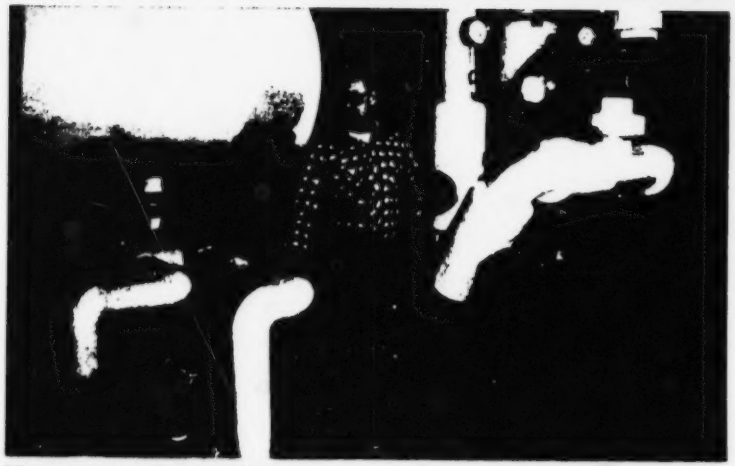
Kings County Memorial Hospital

Montague Junior High, Montague.
A wood chip burning system replaced the oil-fired hot water boiler system in this Kings County school.

Sleepy Hollow Correctional Centre, Queens County.
A wood chip-fired hot water heating system is now used as the heating source for this modern centre near Charlottetown.

Souris High, Souris.
The school will soon utilize whole-tree chips to fire its wood-burning facility.



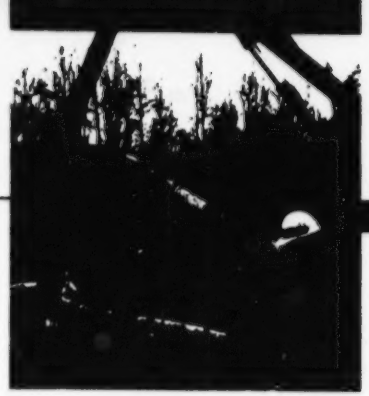


Montague Junior High

Plans are now underway to heat the Prince Edward Home for the Aged as well as the nearby provincial government office complex in downtown Charlottetown by means of a connecting steam and hot water heating system, fueled by locally-obtained wood chips.

Decisions to use wood energy in these projects were finalized only after consideration of the Island's ability to meet its energy requirements. Diligent research has resulted in new energy schemes designed to make Prince Edward Island far less dependent on expensive imported energy supplies and more in tune with what Island resources have to offer.

The results will leave Island dollars in Island hands!



Alternate Energy Development Program

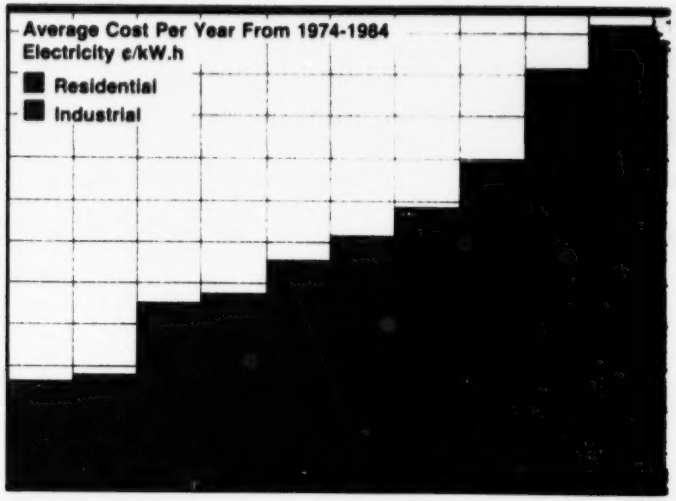
Recognizing the necessity of self-reliance and also realizing the potential of energy from Island resources, the Prince Edward Island Department of Energy and Forestry, together with Energy Mines and Resources Canada, signed a five-year, $10 million Energy Sub-Agreement in June,1984.

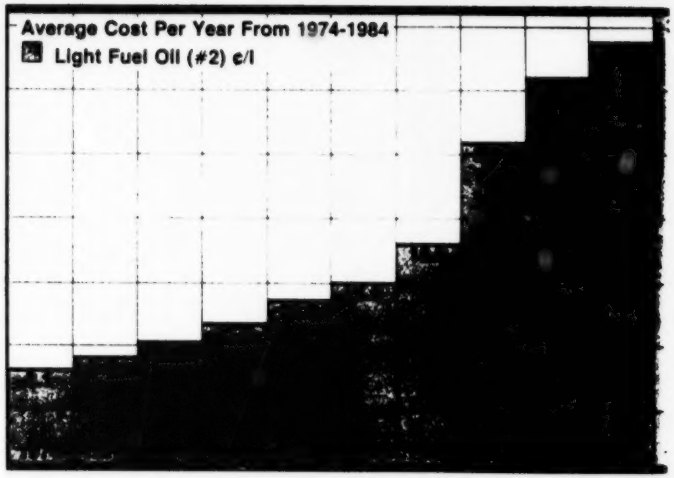
Part of the Canada-Prince Edward Island Economic and Regional Development Agreement (ERDA), the Energy Sub-Agreement provides a number of initiatives designed to provide a cushion from high and possibly rising energy prices over the next five years.

The initiative, collectively referred to as the Alternate Energy Development Program, will focus on the installation of systems for supplying energy to industrial and commercial users in the province of Prince Edward Island.

Opportunities have been identified for using other biomass sources for energy, such as agricultural residues or food processing wastes. With proper management, Prince Edward Island's forests could supply thirty percent of our energy needs. At present, we utilize less than one-third of this potential, primarily for residential heating.

A series of initiatives under the Canada-Prince Edward Island Energy Agreement will promote the increased use of indigenous energy sources such as biomass to help alleviate the high cost of energy and to stimulate local investment and employment.





Program Objectives

A series of initiatives under the Canada-Prince Edward Island Energy Agreement will promote the increased use of indigenous energy sources such as biomass to help alleviate the high cost of energy and to stimulate local investment and employment.

Specific objectives include:

- Reduction of current dependence on costly imported fuel by substitution of forest and other forms of biomass (such as straw and municipal refuse), thus increasing potential for economic development in Prince Edward Island.
- Reduction of dollars spent for imported energy supplies.
- Maintenance of cost competitiveness through reduction in energy costs and increased security of fuel supply, thus preserving employment.
- Development of energy-related expertise and technology.

Throughout the 5-year Energy Agreement, Prince Edward Island residents will be informed of energy activities by public information and communications programs.

Management

Canada and Prince Edward Island will undertake to separately implement the initiatives for which each is responsible, with the overall process to be administered through a Federal-Provincial Management Committee, co-chaired by federal and provincial representatives.

Initiatives in Perspective

To be undertaken as part c Alternate Energy Developn Program are the following initiatives:

1. Financial Assistance Programs

Activities under these programs are aimed at utilizing presently underdeveloped biomass resources on the Island as an alternate fuel source. Three separate federal and provincial programs will be undertaken:

A. Biomass Conversion Program - represents a substantial effort by the federal government to encourage companies and institutions on Prince Edward Island to convert to whole-tree chips and other forms of biomass such as straw and garbage.

B. Wood Supply Systems Incentive Program - a provincial government program designed to aid in the development of harvesting, processing and transportation systems that will assure wood energy users in the province of an adequate and reliable supply of wood fuels.

C. Wood/Biomass Product Development Program - a federal responsibiltiy designed to develop an affordable, reliable, and approved residential wood chip furnace suitable for P.E.I. conditions.

2. Charlottetown District Heating Plant Study

A study, funded by the Province, will examine whether a district heating plant for Charlottetown would be feasible using whole-tree chips as the heat source. Such a plant would generate a large market for wood fuels thereby providing economic benefits to Prince Edward Island woodlot owners and contractors.

3. Energy Alternatives Study for Prince Edw Island Phase II

With Phase I already complete, the second sta will involve completion of Energy Alternatives Stud joint undertaking by the Province and the Govern of Canada, Phase II will, among other things, estin costs for a selected mix c energy supply options in Prince Edward Island.

Initiatives in Perspective

Activities under the Energy Agreement are designed as either federal or provincial, with one project identified as a joint effort.

Provincial Initiatives

Wood Supply Systems

The province will spend $1.1 million to develop wood supply systems designed to support the increased market for wood chips. Special concentration will be given to harvesting, processing and transportation systems in the province.

Charlottetown District Heating Study

$625,000 represents the cost to the P.E.I. Energy Corporation to study the feasibility of a wood-chip fired district heating system for Charlottetown.

Federal Initiatives

Biomass Conversion

Conversion Incentives — The Federal Government will support the installation of industrial/commercial and institutional heating systems which use wood chips and other forms of biomass as fuels. $6.6 million will be spent on the conversion program.

Product Development

This $1 million Federal Government program will involve the research and development of a residential wood-chip burner and demonstration project.

A Joint Initiative

Energy Alternatives For Prince Edward Island Study

A joint effort by the Federal and Provincial Governments in the study of various energy supply alternatives for Prince Edward Island. The provincial contribution amounts to $25,000, while the federal contribution totals $100,000.

Direct benefits of the Energy Agreement for Prince Edward Islanders include:

- Better managed and more productive forest lands.
- An opportunity for local business and industry to opt for a less expensive and easily obtained wood energy supply.
- Renewed opportunities for Island woodlot owners to sell their forest products.
- The opportunity to commence woodcutting and chipping operations for some 16,000 woodlot owners in the province.
- Training and much needed jobs for Islanders.

And most important of all, a new spirit of energy independence for Prince Edward Island!

Island Energy... A Vision of Tomorrow, Today

Prince Edward Islanders are beneficiaries of a dynamic energy heritage which was thoughtfully created and nurtured by our ancestors — a heritage that is both progressive and diversified: progressive to keep in step with 20th Century technology, and diversified to capitalize on unfolding energy opportunities.

Prince Edward Island's strategy for alternate energy development provides the framework for an exciting and "energetic" future for all Islanders.

For detailed information call:

Prince Edward Island Department of Energy and Forestry
Energy Branch
(902) 892-1094
Forestry Branch
(902) 892-0228
or
Energy, Mines and Resources Canada
(Conservation and Renewable Energy Office)
(902) 566-7373